

ABSTRACT

A navigation aide device is disclosed that is capable of conveying traveling instructions to a user in possession of the device to allow the user to navigate from a predetermined source position on a predetermined road map, containing road information, to a predetermined destination position on the map, along an optimal road route, under control of travel instructions spoken by the device. Preferably the device includes a position sensor for sensing position of the device and reporting that position, a text to speech converter, a sound conveying device (such as a speaker and associated amplifier) operably connected to the text to speech converter for conveying speech to the user. The device further includes memory for storing a predetermined road map containing road information and a controller. The controller is operably connected to the position sensor, text to speech converter and map memory. The controller calculates an optimal road route between the source position and the destination position, generates a series of text road travel instructions that describe the optimal route in terms of associated road information, receives the report of position by the position sensor during travel, calculates the speed of the device and its direction of travel from the positions reported by the position sensor and determines the road map position corresponding to the reported position based on the position reported, the calculated speed, the calculated direction of travel and the road information. The controller also conveys the series of text road instructions to the text to speech converter. Based on the road map position determined, the controller causes the text to speech converter to convey to the sound conveying device each of the series of text road instructions at a time before the travel has reached the map position corresponding to the particular text road instruction such that the user hears relevant road travel instructions in substantially a timely manner.